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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,555	12/20/2001	Linda J. Rankin	42390.P12340	4689

8791 7590 02/01/2006

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EXAMINER	
KING, JUSTIN	

ART UNIT	PAPER NUMBER
2111	

DATE MAILED: 02/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/029,555	RANKIN ET AL.	
	Examiner	Art Unit	
	Justin I. King	2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-5, 9-10, 17, and 20-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Kirby (U.S. Patent No. 5,142,531).

Referring to claim 1: Kirby discloses a computer system with a plurality of nodes (abstract). Kirby discloses that each node is determined by the preceding node in such a manner as to minimize the hop count, and each node has a memory showing the link with the best hop (abstract); thus, Kirby discloses determining the node ID information of a second node device of a multi-node computer system; and storing the node ID information of the second node device on a storage device located on a first node device of the multi-node computer system; wherein the first node device is connected to the second node device, and the second node device includes a storage device containing node ID information for a third node device connected to the second node device. Hence, claim is anticipated by Kirby.

Referring to claim 3: Since each of Kirby's nodes is determined by the preceding node in such a manner as to minimize the hop count and each node has a memory showing the link with the best hop (abstract), Kirby discloses a third node device includes a storage device containing node ID information for a fourth node device connected to the third node device. Kirby

discloses that each node incorporates in its memory a list showing the link with best hop count to each possible destination nodes and a list of its links with the best transmission delay (abstract); thus, Kirby discloses storing the node ID information for the third node device on the storage device located on the first node device.

Referring to claim 4: Since each of Kirby's nodes is determined by the preceding node in such a manner as to minimize the hop count and each node has a memory showing the link with the best hop (abstract), Kirby's routing/hoping practice retrieves, from the storage device of each node (third node device), the node ID information for the next node (fourth node device).

Referring to claim 5: Since each of Kirby's nodes is determined by the preceding node in such a manner as to minimize the hop count and each node has a memory showing the link with the best hop (abstract), Kirby discloses that a fourth node device includes a storage device containing node ID information for a fifth node device connected to the third node device. Kirby discloses that each node incorporates in its memory a list showing the link with best hop count to each possible destination nodes and a list of its links with the best transmission delay (abstract); thus, Kirby discloses storing the node ID information for the fourth node device on the storage device located on the first node device.

Referring to claim 9: Kirby discloses a computer system with a plurality of nodes (abstract). Kirby discloses that each node is determined by the preceding node in such a manner as to minimize the hop count, and each node has a memory showing the link with the best hop (abstract); thus, Kirby discloses determining the node ID information of a second node device of a multi-node computer system; and storing the node ID information of the second node device on a storage device located on a first node device of the multi-node computer system; wherein the

first node device is connected to the second node device, and the second node device includes a storage device containing node ID information for a third node device connected to the second node device. Hence, claim is anticipated by Kirby.

Referring to claim 10: Since each of Kirby's nodes is determined by the preceding node in such a manner as to minimize the hop count and each node has a memory showing the link with the best hop (abstract), Kirby's routing/hoping practice retrieves, from the storage device of each node (second node device), the node ID information for the next node (third node device).

Referring to claim 17: Kirby discloses a computer system with a plurality of nodes (abstract). Kirby discloses that each node is determined by the preceding node in such a manner as to minimize the hop count, which is the claimed instructions stored thereon which, when executed by the processor, cause that processor to determine the node ID information of a second node device of a multi-node computer system. Kirby discloses that each node has a memory showing the link with the best hop (abstract); thus, Kirby discloses determining the node ID information of a second node device of a multi-node computer system; and storing the node ID information of the second node device on a storage device located on a first node device of the multi-node computer system; wherein the first node device is connected to the second node device, and the second node device includes a storage device containing node ID information for a third node device connected to the second node device. Hence, claim is anticipated by Kirby.

Referring to claim 20: Kirby discloses a computer system with a plurality of nodes (abstract). Kirby discloses that each node is determined by the preceding node in such a manner as to minimize the hop count, and each node has a memory showing the link with the best hop (abstract); thus, Kirby discloses determining the node ID information of a second node device of

a multi-node computer system; and storing the node ID information of the second node device on a storage device located on a first node device of the multi-node computer system; wherein the first node device is connected to the second node device, and the second node device includes a storage device containing node ID information for a third node device connected to the second node device. Hence, claim is anticipated by Kirby.

Referring to claim 21: Kirby discloses a network (figure 1).

Referring to claim 22: Kirby discloses a network (figure 1), and each node is a workstation.

Referring to claim 23: Kirby discloses a computer system with a plurality of nodes (abstract). Kirby discloses that each node is determined by the preceding node in such a manner as to minimize the hop count, and each node has a memory showing the link with the best hop (abstract); thus, Kirby discloses determining the node ID information of a second node device of a multi-node computer system; and storing the node ID information of the second node device on a storage device located on a first node device of the multi-node computer system; wherein the first node device is connected to the second node device, and the second node device includes a storage device containing node ID information for a third node device connected to the second node device. Since each of Kirby's nodes is determined by the preceding node in such a manner as to minimize the hop count and each node has a memory showing the link with the best hop (abstract), Kirby's routing/hoping practice retrieves, from the storage device of each node (second node device), the node ID information for the next node (third node device). Hence, claim is anticipated by Kirby.

Referring to claim 24: Kirby discloses a procedure of call identifier (figure 2, step 20), which is a remote node device retrieval process for retrieving, from said storage device of said second node device, said node ID information for said third node device; wherein said node ID storage process stores said node ID information for said third node device on said storage device located on said first node device.

Referring to claim 25: Kirby discloses a computer system with a plurality of nodes (abstract). Kirby discloses that each node is determined by the preceding node in such a manner as to minimize the hop count, and each node has a memory showing the link with the best hop (abstract); thus, Kirby discloses determining the node ID information of a second node device of a multi-node computer system; and storing the node ID information of the second node device on a storage device located on a first node device of the multi-node computer system; wherein the first node device is connected to the second node device, and the second node device includes a storage device containing node ID information for a third node device connected to the second node device. Hence, claim is anticipated by Kirby.

Referring to claim 26: Since each of Kirby's nodes is determined by the preceding node in such a manner as to minimize the hop count and each node has a memory showing the link with the best hop (abstract), Kirby's routing/hoping practice retrieves, from the storage device of each node (second node device), the node ID information by the next node (third node device).

Referring to claim 27: Kirby discloses a computer system with a plurality of nodes (abstract). Kirby discloses that each node is determined by the preceding node in such a manner as to minimize the hop count, and each node has a memory showing the link with the best hop (abstract); thus, Kirby discloses a node ID determination process for determining the node ID

information and Kirby's first node, second node, and third node (any node in figure 1) are equivalent to the claimed scalable node controller, multi-port switch, and hub controller; and Kirby storage means in each of its nodes is the claimed storing the node ID information of the second node device on a storage device located on a first node device of the multi-node computer system. Hence, claim is anticipated by Kirby.

Referring to claim 28: Kirby discloses a procedure of call identifier (figure 2, step 20), which is a remote node device retrieval process for retrieving, from said storage device of said second node device, said node ID information for said third node device; wherein said node ID storage process stores said node ID information for said third node device on said storage device located on said first node device.

Referring to claim 29: Kirby discloses a computer system with a plurality of nodes (abstract). Kirby discloses that each node is determined by the preceding node in such a manner as to minimize the hop count, and each node has a memory showing the link with the best hop (abstract); thus, Kirby discloses a node ID determination process for determining the node ID information and Kirby's first node, second node, and third node (any node in figure 1) are equivalent to the claimed scalable node controller, multi-port switch, and hub controller; and Kirby storage means in each of its nodes is the claimed storing the node ID information of the second node device on a storage device located on a first node device of the multi-node computer system. Hence, claim is anticipated by Kirby.

Referring to claim 30: Since each of Kirby's nodes is determined by the preceding node in such a manner as to minimize the hop count and each node has a memory showing the link with the best hop (abstract), Kirby's routing/hoping practice retrieves, from the storage device of

each node (scalable node controller), the node ID information for the next node (multi-port switch).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 6-8, 11-16, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of the Kirby and Amberg et al. (U.S. Patent No. 5,664,221).

Referring to claim 6: Kirby's disclosures and teachings are stated above, Kirby discloses a procedure of call identifier (figure 2, step 20); thus, Kirby explicitly discloses that each device has an identifier. Since each device has an identifier, the means for holding this identifier is equivalent to the node ID specification device. Although Kirby does not explicitly disclose that each node has a node ID specification device specifying the node ID information, such unique identification is a must to properly identify each component in the system.

Amberg discloses a network in SCSI protocol and each network device/node has a jumper for setting the SCSI ID. Amberg teaches that it is known to set a node ID information with a physical node ID specification device. Amberg teaches one to set a user-specified static network address to support particular network communication and maintenance. In addition, one with ordinary skill in the computer art should have known that each peripheral device has a register for storing a vendor ID and device ID for proper device configuration.

Hence, it would have been obvious to one having ordinary skill in the computer art to adapt Amberg's teaching onto Kirby because Amberg teaches one to set a user-specified static network address to support particular network tasks.

Referring to claim 7: Promulgating each device's unique ID is retrieving the node ID information from the node ID specification device.

Referring to claim 8: Kirby discloses a procedure of call identifier (figure 2, step 20), which the claimed transmitting node ID information stored on the node ID specification.

Referring to claim 11: Kirby's disclosure is stated above, Kirby discloses a procedure of call identifier (figure 2, step 20); thus, Kirby explicitly discloses that each device has an identifier. Although Kirby does not explicitly disclose that each node has a node ID specification device specifying the node ID information, such unique identification is a must to properly identify each component in the system.

Amberg discloses a network in SCSI protocol and each device/node has a jumper for setting the SCSI ID. Amberg teaches that it is known to set a node ID information with a physical node ID specification device. Amberg teaches one to set a user-specified static network address to support particular network communication and maintenance. In addition, one with

ordinary skill in the computer art should have known that each peripheral device has a register for storing a vendor ID and device ID for proper device configuration.

Hence, it would have been obvious to one having ordinary skill in the computer art to adapt Amberg's teaching onto Kirby because Amberg teaches one to set a user-specified static network address to support particular network tasks.

Referring to claim 12: Amberg discloses the jumper (column 1, line 23).

Referring to claim 13: Amberg discloses the DIP (column 1, line 30).

Referring to claim 14: Amberg discloses the unalterable addresses with mapping (column 1, lines 51-53). The means for storing the unalterable addresses are the read-only memory.

Referring to claims 15-16: Kirby discloses a procedure of call identifier (figure 2, step 20), which the claimed transmitting node ID information stored on the node ID specification.

Referring to claim 18: Amberg discloses the unalterable addresses with mapping (column 1, lines 51-53). The means for storing the unalterable addresses are the read-only memory.

Referring to claim 19: The SCSI protocol often is used with the RAID controller for server's hard drives, which store the system program and the kernel. Thus, it would be obvious to one to store the program in the hard drive.

Response to Arguments

6. In response to Applicant's argument that Kirby is nonanalogous art (Remark, page 12, last 2 paragraphs): It has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed

invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Kirby discloses a computing system identifying each node with the step claimed the Applicant. Although Applicant argues that Kirby directs to a computing network rather than a single computer as disclosed in the Specification, the claimed limitations do not limit to a particular structure or particular steps exclusively to one single computer. Assuming arguendo that the claimed limitations are interpreted only to a single computer with a related amendment, Kirby still teaches one with ordinary skill in the computer art an initialization scheme that enables one to properly initialize nodes in a system with multiple tiers. The claimed language as drafted is too broad for precluding the reading from the prior arts on the record.

7. In response to Applicants' argument that Kirby does not mention a multi-port switch, I/O hub controller, or a scalable node controller (Remark, page 13, 1st paragraph): Kirby discloses a computer system with a plurality of nodes (abstract). Since each node is connected to a plurality of nodes; thus, each node has a plurality of ports. Since each node can increase its physical connections, each node is scalable. Since each node directs the communication between its up-link and down-link, each node is a hub controller. Hence, Kirby's first node, second node, and third node (any node in figure 1) are equivalent to the claimed scalable node controller, multi-port switch, and hub controller.

8. In response to Applicant's argument that there is no suggestion to combine the references (Remark, page 14, last paragraph): Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re*

Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, a unique address/node identifier is a must for establishing properly communication among the devices. Amberg discloses both DIP and jumper; Amberg teaches and enables one to customize and to configure the unique identifier for each node to avoid any potential conflict or duplication by the practice of DIP and jumper.

Conclusion

9. The prior art made of recorded and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,510,464 to Sidhu et al.: Sidhu discloses that each computer node, such as a computer on the network or a computer peripheral, has a unique identifier. This unique identifier is the claimed node ID information by the Applicant.

U.S. Patent No. 5,764,965 to Poimboeuf et al.: Poimbeuf discloses routers with jumpers for configuration.

U.S. Patent No. 4,589,075 to Buennagel: Buennagel discloses that it is a known common practice to employ DIP switches to configure network components.

U.S. Patent No. 5,765,027 to Wang et al.: Wang discloses that it is a known common practice to employee ROM to store firmware or node ID.

"PCI-to-PCI Bridge Architecture Specification" by PCISIG: The Specification discloses a multi-tier bridge architecture and PCI device initialization.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin I. King whose telephone number is 571-272-3628. The examiner can normally be reached on Monday through Friday, 9:00 am to 5:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on 571-272-3676 or on the central telephone number, (571) 272-2100. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lastly, paper copies of cited U.S. patents and U.S. patent application publications will cease to be mailed to applicants with Office actions as of June 2004. Paper copies of foreign patents and non-patent literature will continue to be included with office actions. These cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources. Applicants are referred to the Electronic Business Center (EBC) at http://www.uspto.gov/ebc/index.html or 1-866-217-9197 for information on this policy. Requests to restart a period for response due to a missing U.S. patent or patent application publications will not be granted.

Justin King
January 26, 2006

REHANA PERVEEN
SUPERVISORY PATENT EXAMINER
1/27/06